

**CLAIMS**

What is claimed is:

- 5     1. A lateral transfer retroreflector assembly, comprising:  
      a mirror panel housing having a first mirror panel mounted thereto, said mirror  
      panel housing located at a first end of said lateral transfer retroreflector assembly;  
      a roof mirror assembly housing having a roof mirror assembly mounted thereto,  
      said roof mirror assembly housing located at an opposite, second end of said lateral  
10    transfer retroreflector assembly; and  
      a connecting member, mounted to and between both said mirror panel housing  
      and said roof mirror assembly housing.
- 15    2. A lateral transfer retroreflector assembly as recited in claim 1, said roof mirror  
      assembly comprising second and third mirror panels having reflective surfaces, wherein  
      said reflective surfaces of said second and third mirror panels are oriented substantially  
      perpendicularly to each other.
- 20    3. A lateral transfer retroreflector assembly as recited in claim 2, said first mirror  
      panel having a reflective surface oriented substantially perpendicularly to said reflective  
      surfaces of said second and third mirror panels.
- 25    4. A lateral transfer retroreflector assembly as recited in claim 1, said mirror panel  
      housing comprising a first side member, a second side member and a receiving member  
      for said connecting member.
5. A lateral transfer retroreflector assembly as recited in claim 4, wherein said first  
      mirror panel is mounted to said mirror panel housing along portions of first and second  
25    chamfered edges of said first mirror panel.
6. A lateral transfer retroreflector assembly as recited in claim 5, wherein said  
      portions of said first and second chamfered edges of said first mirror panel are adhered to  
      edge portions of said first and second side members of said mirror panel housing.
- 30    7. A lateral transfer retroreflector assembly as recited in claim 6, said first chamfered  
      edge of said first mirror panel is adhered at two said portions to said first side member of  
      said mirror panel housing.
8. A lateral transfer retroreflector assembly as recited in claim 7, said second

chamfered edge of said first mirror panel is adhered at one said portion to said second side member of said mirror panel housing.

9. A lateral transfer retroreflector assembly as recited in claim 6, wherein said receiving member for said connecting member, is located along other edge portions of said first and second side members, and said other edge portions are oriented with respect to said edge portions at substantially 45° angles to said edge portions.

10. A lateral transfer retroreflector assembly as recited in claim 9, said mirror panel housing further comprising an aperture member mounted thereto along yet other edge portions of said first and second side members and located substantially between said first mirror panel and said receiving member for said connecting member.

11. A lateral transfer retroreflector assembly as recited in claim 2, wherein each of said second and third mirror panels of said roof mirror assembly comprise an edge surface adjacent to, and substantially at a 45° angle to, said respective reflective surface of said mirror panel.

15 12. A lateral transfer retroreflector assembly as recited in claim 11, wherein said second and third mirror panels of said roof mirror assembly are joined together along said edge surfaces.

13. A lateral transfer retroreflector assembly as recited in claim 12, wherein said joint between said second and third mirror panels of said roof mirror assembly is a miter joint.

20 14. A lateral transfer retroreflector assembly as recited in claim 12, said roof mirror assembly comprising at least one mounting block extending under said joined second and third mirror panels, said roof mirror assembly mounted to said roof mirror assembly housing along a bottom surface of said at least one mounting block.

15. A lateral transfer retroreflector assembly as recited in claim 14, wherein said at 25 least one mounting block is adhered to said joined second and third mirror panels along portions of a first side thereof and along abutting portions of at least one bottom surface of said joined second and third mirror panels.

16. A lateral transfer retroreflector assembly as recited in claim 15, wherein said at 30 least one bottom surface of said joined second and third mirror panels lies in a plain<sup>P</sup>) extending substantially perpendicularly to both of said reflective surfaces of said second and third mirror panels.

17. A lateral transfer retroreflector assembly as recited in claim 16, wherein said at least one mounting block does not touch said second and third mirror panels in any other locations.
18. A lateral transfer retroreflector assembly as recited in claim 14, wherein said at least one mounting block is a pair of mounting blocks, said roof mirror assembly mounted to said roof mirror assembly housing along a bottom surface of each of said mounting blocks.
19. A lateral transfer retroreflector assembly as recited in claim 1, said roof mirror assembly housing comprising a first side member, a second side member, a back member and a receiving member for said connecting member.
20. A lateral transfer retroreflector assembly as recited in claim 19, wherein said roof mirror assembly is attached to said roof mirror assembly housing along said back member.
21. A lateral transfer retroreflector assembly, comprising:  
15            a mirror panel housing having a first mirror panel mounted thereto, said mirror panel housing located at a first end of said lateral transfer retroreflector assembly;  
            a roof mirror assembly housing located at an opposite, second end of said lateral transfer retroreflector assembly, having a roof mirror assembly mounted thereto, said roof mirror assembly, comprising:  
20            second and third mirror panels each having a reflective surface and an adjacent edge surface oriented substantially at a 45° angle to each of said reflective surfaces, said second and third mirror panels being joined together along said edge surfaces so that said reflective surfaces are substantially perpendicular to each other; and  
            a connecting member, mounted to and between both said mirror panel housing and said roof mirror assembly housing.
- 25            22. A lateral transfer retroreflector assembly as recited in claim 21, said first mirror panel having a reflective surface oriented substantially perpendicularly to said reflective surfaces of said second and third mirror panels.
23. A lateral transfer retroreflector assembly as recited in claim 21, said mirror panel housing comprising a first side member, a second side member and a receiving member for said connecting member.

24. A lateral transfer retroreflector assembly as recited in claim 23, wherein said first mirror panel is mounted to said mirror panel housing along portions of first and second chamfered edges of said first mirror panel.
25. A lateral transfer retroreflector assembly as recited in claim 24, wherein said portions of said first and second chamfered edges of said first mirror panel are adhered to edge portions of said first and second side members of said mirror panel housing.
26. A lateral transfer retroreflector assembly as recited in claim 25, said first chamfered edge of said first mirror panel is adhered at two said portions to said first side member of said mirror panel housing.
27. A lateral transfer retroreflector assembly as recited in claim 26, said second chamfered edge of said first mirror panel is adhered at one said portion to said second side member of said mirror panel housing.
28. A lateral transfer retroreflector assembly as recited in claim 25, wherein said receiving member for said connecting member, is located along other edge portions of said first and second side members, and said other edge portions are oriented with respect to said edge portions at substantially 45° angles to said edge portions.
29. A lateral transfer retroreflector assembly as recited in claim 28, said mirror panel housing further comprising an aperture member mounted thereto along yet other edge portions of said first and second side members and located substantially between said first mirror panel and said receiving member for said connecting member.
30. A lateral transfer retroreflector assembly as recited in claim 21, wherein said edges of said second and third mirror panels of said roof mirror assembly are joined together in a miter joint.
31. A lateral transfer retroreflector assembly as recited in claim 21, said roof mirror assembly further comprising, at least one mounting block adhered to, and extending under, said joined second and third mirror panels, for mounting said roof mirror assembly to said roof mirror assembly housing.
32. A lateral transfer retroreflector assembly as recited in claim 31, wherein said roof mirror assembly is mounted to said roof mirror assembly housing along a bottom surface of said at least one mounting block.
33. A lateral transfer retroreflector assembly as recited in claim 32, wherein said at

least one mounting block is adhered to said joined second and third mirror panels along portions of a first side thereof and along abutting portions of at least one bottom surface of said joined second and third mirror panels.

34. A lateral transfer retroreflector assembly as recited in claim 33, wherein said at least one bottom surface of said joined second and third mirror panels lies in a plain extending substantially perpendicularly to both of said reflective surfaces of said second and third mirror panels.

35. A lateral transfer retroreflector assembly as recited in claim 34, wherein said at least one mounting block does not touch said second and third mirror panels in any other locations.

36. A lateral transfer retroreflector assembly as recited in claim 31, wherein said at least one mounting block is a pair of mounting blocks, said roof mirror assembly mounted to said roof mirror assembly housing along a bottom surface of each of said mounting blocks.

37. A lateral transfer retroreflector assembly as recited in claim 21, said roof mirror assembly housing comprising a first side member, a second side member, a back member and a receiving member for said connecting member.

38. A lateral transfer retroreflector assembly as recited in claim 36, wherein said roof mirror assembly is attached to said roof mirror assembly housing along said back member.

39. A roof mirror assembly, comprising:

a first mirror panel having a first reflective surface and a first edge surface, said first edge surface lying in a plane oriented substantially at a 45° angle to said first reflective surface;

a second mirror panel having a second reflective surface and a second edge surface, said second edge surface lying in a plane oriented substantially at a 45° angle to said second reflective surface, wherein said first and second edge surfaces are joined together creating a common plane oriented substantially at a 45° angle to both of said reflective surfaces, and further wherein said joining together of said panels along said common plane causes said first and second reflective surfaces of said panels to be oriented substantially perpendicularly to each other; and

at least one mounting block adhered to, and extending under, said joined first and second mirror panels, said at least one mounting block being adhered to said joined mirror panels along portions of at least one back surface extending from at least one of said first or second mirror panels, said at least one back surface lying in a plane oriented substantially perpendicular to said common plane.

40. A roof mirror assembly as recited in claim 38, wherein said first and second edge surfaces are joined together creating a miter joint. 39

41. A roof mirror assembly as recited in claim 38, wherein said at least one mounting block is two mounting blocks.

42. A roof mirror assembly as recited in claim 38, wherein said at least one back surface is a first back surface extending from said first mirror panel and a second back

43. A roof mirror assembly as recited in claim 38, further comprising a back plate member adhered below said mounting members.

44. A method of assembling a lateral transfer retroreflector assembly in order to comply with certain operator mandated specifications, comprising the steps of:

forming a mirror panel housing having a first side member, a second side member and a receiving member for a connecting member;

adhering a mirror panel having a first reflective surface to said first and second side members of said mirror panel housing;

forming a roof mirror assembly housing having a first side member, a second side member, a back member and a receiving member for said connecting member;

adhering to said back member of said roof mirror assembly housing, a roof mirror assembly comprising second and third mirror panels, with said second mirror panel having a second reflective surface in substantially perpendicular alignment with a third reflective surface on said third mirror panel;

cutting from a supply of off-the-shelf connecting members, said connecting member for said lateral transfer retroreflector, to a length prescribed in part by said operator mandated specifications; and

adhering said cut connecting member to said members for receiving said connecting member.

45. A method of assembling a lateral transfer retroreflector assembly as recited in claim 43, comprising the further step of aligning said first reflective surface of said mirror panel housing with said substantially perpendicularly oriented second and third reflective surfaces of said second and third mirror panels of said roof mirror assembly.

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